Rec'd PCT/PTO 15 MAR 2005

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau



I COLIFE ENVIRON IN COLONO COMO BENIN COMIN COLON DE UN COLON CO

(43) International Publication Date 17 June 2004 (17.06.2004)

PCT

(10) International Publication Number WO 2004/051158 A3

(51) International Patent Classification7: H01L 35/30

F25B 21/02,

(21) International Application Number:

PCT/IT2003/000784

(22) International Filing Date:

27 November 2003 (27.11.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: MI2002 A 002548 2 December 2002 (02.12.2002)

- (71) Applicant (for all designated States except US): PEL-TECH S.r.l. [IT/IT]; Corso Matteotti, 8, I-20121 Milano (IT).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): PASTORINO, Giorgio [IT/IT]; Via Provinciale, 61, I-23864 Malgrate (IT).
- (74) Agent: PELLEGATTA, Ottorino; c/o Calvani, Salvi & Veronelli S.r L., Piazza Duca d'Aosta, 4, I-20124 Milan (IT).

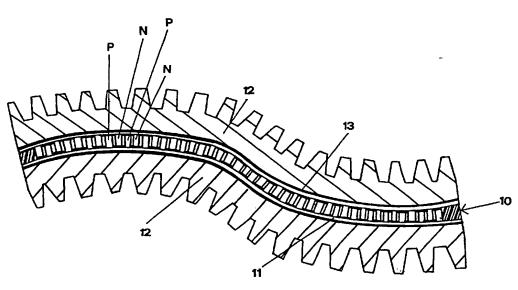
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 22 July 2004

[Continued on next page]

(54) Title: INTEGRATED THERMOELECTRIC MODULE



(57) Abstract: The integrated thermoelectric module is formed of a set of thermoelectric elements, consisting of N type and P type conductor and/or semiconductor elements electrically connected in series and/or in parallel and thermally connected in parallel and take a seambled on flexible supports (11) of polymeric material, capable of electrically isolating said circuit, but having a high thermai conductivity efficiency. Each support (11) is connected to a heat exchanger (12) by means of connection materials (13) having iow thermal impedance allowing optimum connection even at low adhesion pressures. The thermoelectric elements are distributed in as interior part so as to geometrically harmonize heat transferred from the integrated thermoelectric module with heat exchanged by the heat exchangers, thus making the temperature distribution on said exchangers as uniform as possible.